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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,843	01/27/2005	Shik Chi Tsang	056646-5022	8736

9629 7590 10/09/2007
MORGAN LEWIS & BOCKIUS LLP
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WASHINGTON, DC 20004

EXAMINER

HAILEY, PATRICIA L

ART UNIT	PAPER NUMBER
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1793

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10/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/500,843	Applicant(s) TSANG ET AL.	
	Examiner Patricia L. Hailey	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-16 is/are allowed.
- 6) ☒ Claim(s) 17-19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Applicants' remarks and amendments, filed on July 20, 2007, have been carefully considered. Claims 20, 25, and 26 have been canceled; no new claims have been added.

Claims 1-19 and 21-24 remain pending in this application.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Document was filed on July 7, 2004.

Withdrawn Rejections

The provisional non-statutory obviousness-type double patenting rejection of claims 1, 6-8, 11, 12, 17, and 18 as being unpatentable over claims 1, 2, 9-12, and 14-16 of copending U. S. Patent Application Publication No. 2005/0106098 (which corresponds to copending Application Serial No. 10/500,842), stated in the previous Office Action, has been withdrawn in view of the Terminal Disclaimer filed by Applicants on July 20, 2007.

The 112(2) rejection of claims 25 and 26, as being incomplete for omitting essential steps, as stated in the previous Office Action, has been withdrawn in view of Applicants' cancellation of these claims.

Allowable Subject Matter

2. The indicated allowability of claims 20, 22, and 23 is withdrawn in view of the Examiner's reconsideration of the reference to Ruoff et al. (U. S. Patent No. 5,547,748, Applicants' previously submitted art). Rejections based on the newly cited reference(s) follow.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Maintained Rejections

4. ***Claims 17-19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Ruoff et al. (U. S. Patent No. 5,547,748, Applicants' previously submitted art).***

Ruoff et al. disclose nanoencapsulate particles comprising a polyhedral outer shell of nested, concentric layers of carbon, which defines an internal cavity or void, within which (the cavity or void) a metal is encapsulated. See col. 2, lines 32-36 of Ruoff et al. (considered to read upon **claims 17 and 18**).

Paramagnetic and ferromagnetic elements, such as Fe, Co, Ni can be encapsulated, as well as metal alloys. See col. 2, line 58 to col. 3, line 3 of Ruoff et al., as well as col. 4, line 55 to col. 5, line 2 (considered to read upon **claim 24**).

An exemplary nanoparticulate has an outer diameter of approximately 53 nm, and an inner diameter of approximately 28 nm. See col. 4, lines 49-54 of Ruoff et al. (considered to read upon **claim 19**).

In other embodiments, the carbon shell of the nanoparticulate is derivatized with a molecule; for example, the corners of the carbon shell, which are likely reactive, are covalently modified with appropriate functional groups. See col. 3, lines 4-7 of Ruoff et al., as well as col. 8, lines 52-67, which discusses exemplary reactions for derivatizing the nanoencapsulates (considered to read upon **claim 23**), and, additionally, col. 13, lines 19-27, which discloses nanoencapsulates embedded in a carbonaceous matrix, such as silicon carbide (considered to read upon **claim 22**, as well as the limitation "amorphous matrix" in **claim 17** as now amended).

The nanoencapsulates have potential catalytic applications. See col. 13, line 56 to col. 14, line 7 of Ruoff et al.

In view of these teachings, Ruoff et al. anticipate claims 17-19 and 21-24.

Allowable Subject Matter

5. Claims 1-16 are allowed, there being no rejections of these claims, aside from the previously stated (and withdrawn) provisional non-statutory double patenting rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-


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1369. The examiner can normally be reached on Mondays-Fridays, from 7:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Patricia L. Hailey/plh
Examiner, Art Unit 1755
October 1, 2007


J. A. LORENGO
SUPERVISORY PATENT EXAMINER